

Remarks

This is in response to the Office Action mailed May 10, 2007, 2005, in the above-referenced application.

As a preliminary matter, Applicants note with appreciation the Examiner's thorough examination of the present application. Applicants also submit concurrently herewith another supplemental Information Disclosure Statement and Form PTO/SB/08A, to present an English translation of DE 3837506, cited by the Examiner in the May 10, 2007 Office Action, and to resubmit the English translation of JP 64-025541, previously filed April 30, 2007.

Turning now to the rejections of record, Claims 22, 24, 49 and 50 are rejected under 35 USC Section 102(b) as anticipated by, or in the alternative, under 35 USC Section 103(a) as obvious over newly cited M. Pradetto (DE 3837506).

The susceptor of the claimed system is defined by a plurality of straight sidewall sections connected at adjacent sides, each section having a planar surface, such as the plurality of adjacent straight side wall sections 51 of Figure 6. The susceptor further includes a plurality of wafer pockets, such as wafer pockets 52 of Figure 6, on the inner circumference thereof.

As stated in the application as filed, the susceptor illustrated in Figure 6 is most appropriately used in the type of system illustrated in Figure 2. As illustrated in Figure 2, the source of electromagnetic radiation external to the reaction vessel is spaced apart from the reaction vessel to form a void or space therebetween. As also illustrated in Figure 2, the system can further include a water inlet for introducing water into the space between the reaction vessel and the source of electromagnetic radiation to form a water jacket to circulate water against an outer surface of the reaction vessel.

Claim 49 is amended to present this embodiment of the system of the invention. The amendment is supported by the application as filed, including for example, page 8, lines 3-11

and page 9, lines 14-16. This amendment does not present new matter, and entry of the same is respectfully solicited.

Pradetto does not teach a plurality of wafer pockets. Further, Pradetto teaches away from the system as claimed which includes a water inlet for introducing water into the space between the reaction vessel and the source of electromagnetic radiation to form a water jacket to circulate water against an outer surface of the reaction vessel. Accordingly, Applicants respectfully request withdrawal of this rejection.

Claims 22, 24, and 49 are rejected under 35 USC Section 103(a) as obvious over Briody (US Patent No. 3,659,552) in view of Ryozo Sato (JP 64025541).

As acknowledged by the Examiner, the Briody apparatus does not include a susceptor “defined by a plurality of straight sidewall sections, each section having a planar surface” as claimed. In contrast, the Briody apparatus includes a hollow drum-like work holder 16 formed of a plurality of annular members, such as graphite rings 15-15. Column 2, lines 40-46. As illustrated in Figure 1, the plurality of rings 15 form curved side walls in a ringed drum configuration. See also Figure 2, illustrating the curved surface of a section of a ring 15.

Briody also does not teach spacing between facing planar sidewall sections as claimed. Briody certainly does not teach or recognize that appropriately dimensioned spacing can function as claimed to “heat the exposed surface of a facing substrate wafer to substantially the same temperature as said susceptor portion heats a substrate wafer that is in one of said wafer pockets to thereby minimize or substantially eliminate radial and axial temperature gradients across a substrate wafer.”

Applicants respectfully submit that Sato cannot overcome the deficiencies of Briody. In contrast to the claimed invention, in which spacing between facing sidewall sections is unobstructed, the Sato apparatus includes a centrally located cooling tube 16 and an annular wafer supporting body 18 arranged so as to surround the cooling tube, *i.e.*, the cooling tube 16 obstructs opposing surfaces of the annular wafer supporting body 18.

Also in contrast to the claimed invention in which the spacing between facing sidewall sections is dimensioned so that facing sidewall sections radiantly and directly heat the exposed surface of a facing substrate wafer, in Sato, reaction gas is guided between the cooling tube 16 and a wafer mounting surface 18a of the supporting body 18 so as to cool the reaction gas and suppress an increase in temperature. Accordingly, Sato teaches away from the combination proposed by the Examiner. In view of the foregoing, Applicants respectfully request withdrawal of this rejection as well.

Claims 22, 24, and 49 are rejected under 35 USC Section 103(a) as obvious over Briody (US Patent No. 3,659,552) in view of Kobayashi *et al.* (JP 62257720).

As noted above, and as acknowledged by the Examiner, the Briody apparatus does not include a susceptor “defined by a plurality of straight sidewall sections, each section having a planar surface” as claimed. In contrast to the claimed invention, the Briody apparatus includes a hollow drum-like work holder 16 formed of a plurality of annular members, such as graphite rings 15-15. Column 2, lines 40-46. As illustrated in Figure 1, the plurality of rings 15 form curved side walls in a ringed drum configuration. See also Figure 2, illustrating the curved surface of a section of a ring 15.

Further, as discussed above, Briody does not teach spacing between facing planar sidewall sections as claimed. Briody certainly does not teach or recognize that appropriately dimensioned spacing can function as claimed to “heat the exposed surface of a facing substrate wafer to substantially the same temperature as said susceptor portion heats a substrate wafer that is in one of said wafer pockets to thereby minimize or substantially eliminate radial and axial temperature gradients across a substrate wafer.”

Applicants respectfully submit that Kobayashi cannot overcome the deficiencies of Briody. Figure 2 of Kobayashi illustrates another annular ring like member as the supporter 14, which is similar to the graphite rings 15-15 of Briody. In contrast, the claimed susceptor defined by a plurality of straight sidewall sections, each section having a planar surface. Thus, even if one were to combine the teachings of the cited documents as proposed by the

Examiner, the result would not be the same as claimed. In view of the foregoing, Applicants respectfully request withdrawal of this rejection as well.

Claim 50 is rejected under 35 USC Section 103(a) as obvious over Briody (US Patent No. 3,659,552) in view of Ryozyo Sato (JP 64025541) or Kobayashi *et al.* (JP 62257720) and further in view of Martin *et al.* (US Patent No. 4,579,080). Applicants respectfully traverse this rejection for the reasons set forth in more detail above.

Applicants further submit that Martin cannot overcome the deficiencies of the Sato and Kobayashi documents. Briody and Martin teach away from one another and are not properly combined. As an example, the Martin apparatus includes areas of reduced thickness. Column 4, lines 55–64. The Briody patent does not teach or suggest such a modification. As another example, the Martin apparatus includes wafer receptacles shaped to prevent a wafer from contacting the susceptor. Column 10, lines 30–35. In contrast, the Briody patent states that its device centrifugally forces the articles against the susceptor surface. Column 1, lines 64–66.

Because the Briody and the Martin patents teach away from various operational aspects of one another, the cited patents are not properly combinable. If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. Accordingly, Applicants respectfully request withdrawal of this rejection as well.

The rejections of record having been addressed in full in the foregoing, Applicants respectfully submit that the present application is in condition for allowance, which action is respectfully solicited. Should the Examiner have any questions regarding the foregoing, it is respectfully requested that the Examiner contact the undersigned at his convenience to expedite examination and allowance of this matter.

It is not believed that extensions of time or fees for net addition of claims are required beyond those that may otherwise be provided for in documents accompanying this paper.

In re: Hua-Shuang Kong
Serial No. 09/715,576
Filed: November 17, 2000
Page 8

However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 50-0332.

Respectfully submitted,
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